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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/454,969	12/06/1999	RYOJI FUKUDA	35.C14082	4477

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EXAMINER

ABDULSELAM, ABBAS I

ART UNIT PAPER NUMBER

2674

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/454,969

Applicant(s)

FUKUDA, RYOJI

Examiner

Abbas I Abdulsalam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,7-14,22,23,25,28-34,42,43,45,48-54 and 62-64 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☐ Claim(s) _____ is/are allowed.

- 6) ☒ Claim(s) 1,2,4,7-14,22,23,25,28-34,42,43,45,48-54 and 62-64 is/are rejected.

- 7) ☐ Claim(s) _____ is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4, 7-14, 22-23, 25, 28-34, 42-43, 45 and 48-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babb et al. (USPN 5940065) in view of Teterwak (USPN 5777898).

Regarding claims 1, 22 and 42, Babb teaches touch screen system including correcting of coordinates such as (X, Y), and correction coefficients. See column 2, lines 1-9. Babb teaches uncorrected coordinates input to be linearized by algorithm means before it is ready for lookup table which operates in linearized space. See column 2, lines 11-14. Babb further teaches that the lookup table provides an addressable storage for correction coefficients which are used to calculate a location from measured detector values. See column 2, lines 1-2. Babb teaches that the coefficients are to be solved using simultaneous equations. See column 4, lines 23-25 and column 11, lines 24-29. Babb teaches the range of corrections as being from zero order to polynomial levels and also teaches a mapping function to map the detector outputs to corrected coordinate

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positions. See column 2, lines 9-10 and column 4, lines 19-23. Furthermore, Babb teaches a method for determining coordinate positions with respect to a second medium having a surface from multiple input values. See column 8, lines 49-67. Babb teaches a programmable read only memory (EEPROM) which may be attached or included with a sensor for string coefficients. See column 10, line 66 and column 11, lines 1-5. Likewise, Babb teaches 2K bit memory device that is used to store the calculated and applied coefficients. See column 16, lines 50-53.

Babb teaches data acquisition system (200) along with substrate (110) and the process of data transmission. Babb teaches a touch screen system including detectors in terms of accurately determining a coordinate position of a touch. Bab also teaches sensor data coordinates with respect to touch coordinates that are not-linear and the use of least mean square curve for solutions of equations. In addition, Babb teaches a Mathcard software which is used to compute the mapping coefficient and further teaches programming codes which are used for efficient executions. Babb teaches a method involving reception of an address in the form of X and Y values corresponding to uncorrected coordinates and also teaches a method to produce corrected coordinates. Babb teaches mapping of a sensor in terms of sample (160), touch detected (161), calculation (162), identification (163) and computing X and Y coordinates (164). See column 1, lines 6-14, column 2, lines 1-9, column 4, lines 34-47, column 13, lines 5-10, column 17, lines 48-60, Fig 6 and Fig 7. However, Bobb does not disclose the reference points indicating positions from user-designated coordinates on the coordinate input means. Teterwak on the other hand

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teaches a display system including displaying reference points on display device (120) and generating reported coordinates corresponding to reference points (130) as shown in Fig. 6.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the touch screen system to include method of using reference points that would help generate the corresponding coordinates. One would have been motivated in view of the suggestion in Teterwak that the use of reference points (120) as shown in Fig 6 is equivalent to the desired reference points. The use of reference points helps function the digitizing panel as taught by Teterwak.

Regarding claim 2, Babb teaches that for each set of coordinate values (X, Y), the detector values are used as variables A, B, C, D in the form of equations. See column 13, lines 20-32.

Regarding claims 4, 25 and 45, Babb teaches that the mapping equation which is capable of producing accurate position output. See column 3, lines 1-2, and column 4, lines 1-12.

Regarding claims 8, 29 and 49, Babb teaches solving simultaneous equations which determines coefficients. See column 11, lines 24-29

Regarding claims 10, 31 and 51, Babb teaches mapping for a set of sensor data coordinates to touch coordinates and also teaches that the mapping relation has inputs greater in number than outputs. See column 4, lines 39-47. Babb teaches distortions of coordinate values in X and Y and in rectangular shape. See Fig 1.

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Regarding claim 43, Babb teaches a method of determining coefficients involving solving polynomial equations. See column 7, lines 25-48. Babb also teaches correction coefficients as well as storage for correction coefficients, and the steps of producing corrected coordinates. See column 2, lines 1-18.

Regarding claims 11,, 23, 32 and 52, Babb teaches a method of determining coefficients involving solving of polynomial equations. See column 7, lines 25-48. Babb also teaches correction coefficients as well as storage for correction coefficients, and the steps of producing corrected coordinates. See column 2, lines 1-18.

Regarding claims 12, 33 and 53, Babb teaches excitation which is applied to the bus bars (4) and then switched to a second set of bus bars to define the second coordinates. See column 2, lines 39-49, and Fig 2.

Regarding claims 13, 34 and 54, Babb teaches algorithmically compensated pressure and position sensor. See Fig 11.

Regarding claim 14, Babb teaches a mapping system which can be provided as software driver system in a connected host computer. See column 11, lines 6-8

Regarding claims 9, 30 and 50, see Fig 8 (257, 210).

Regarding claims 7, 28 and 48, Babb teaches that coefficients are solved in such a way that errors are minimized in a given data set which is an array of output values for specific points with known locations. See column 7, lines 34-43.

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Conclusion

2. The prior art made of record and not relied upon is considered to applicant's disclosure.

The following arts are cited for further reference.

U.S. Pat. No. 6,077,310 to Yamamoto et al.

U.S. Pat. No. 5,621,438 to Kamimura et al.

U.S. Pat. No. 5,963,194 to Umeda et al.

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3. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314


Hand delivered responses should be brought to Crystal Park II, crystal drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

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RICHARD HJERPE
SUPERVISORY SENIOR EXAMINER
TECHNOLOGY CENTER 2600